

What is claimed is:

1. A solar control film comprising:
 - a) an adhesive layer for adhering the solar control film to a substrate;
 - b) a metallized layer; and
 - c) a scratch resistant layer containing dispersed carbon black particles wherein the metallized layer is between the adhesive layer for adhering to a substrate and the scratch resistant layer.
2. The solar control film of claim 1 wherein the adhesive layer comprises a pressure sensitive adhesive.
3. The solar control film of claim 1 wherein the adhesive layer comprises a dry adhesive.
4. The solar control film of claim 1 wherein a releasable liner is present on the adhesive layer.
5. The solar control film of claim 1 wherein the metallized layer is comprised of aluminum deposited on a polymeric substrate.

1 6. The solar control film of claim 5 wherein the polymeric substrate
2 comprises polyethylene terephthalate.

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4 7. The solar control film of claim 1 wherein the scratch resistant layer
5 comprises from about 1 to about 10% by weight of the carbon black particles.

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8 8. The solar control film of claim 1 wherein the scratch resistant coating
9 comprises from about 2 to about 3% by weight of the carbon black particles.

10 9. The solar control film of claim 1 wherein the carbon black particles have
11 an average particle size in the range of from about 0.2 to about 5.0 microns.

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13 10. The solar control film of claim 1 wherein the carbon black particles have
14 an average particle size in the range of from about 0.2 to about 0.5 microns.

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16 11. The solar control film of claim 1 wherein the scratch resistant layer
17 comprises an acrylic resin.

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19 12. The solar control film of claim 11 wherein the acrylic resin is prepared
20 from a mixture of pentaerythritol triacrylate ester and pentaerythritol tetraacrylate
21 ester.

1 13. The solar control film of claim 1 wherein the acrylic resin is prepared
2 from pentaerythritol tetraacrylate ester, pentaerythritol triacrylate ester and an acrylated
3 epoxy compound.
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5 14. The solar control film of claim 1 wherein the scratch resistant layer has a
6 thickness in the range of from about 0.5 to about 3.0 microns.

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8 15. The solar control film of claim 1 wherein the scratch resistant layer has a
9 thickness in the range of from about 0.8 to about 1.8 microns.
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11 16. The solar control film of claim 1 wherein the solar control film has a
12 visible light transmittance of from about 10% to about 80% and a visible light
13 reflection of from about 0% to about 8%.
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15 17. The solar control film of claim 1 wherein the solar control film has a
16 haze of less than about 7%.
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18 18. The solar control film of claim 1 further comprising a polymeric film
19 between the adhesive layer and the metallized layer.
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1 19. The solar control film of claim 18 wherein the polymeric film is
2 composed of polyethylene ethylene terephthalate.
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4 20. The solar control film of claim 19 wherein the polymeric film includes
5 an ultraviolet absorbent.
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7 21. The solar control film of claim 18 comprising a plurality of metallized
8 layers.
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10 22. The solar control film of claim 21 wherein a polymeric film is located
11 between adjacent metallized layers.
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13 23. A process for preparing a solar control film comprising mixing a
14 composition comprised of carbon black in particulate form dispersed in a nitrocellulose
15 resin with a polymer forming material to form a coating composition and applying the
16 coating composition to a component of a solar control film comprised of an adhesive
17 layer for adhering the solar control film to a substrate and a metallized layer whereby
18 the coating composition forms a scratch resistant layer containing dispersed carbon
19 black particles.
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21 24. The process of claim 23 wherein the pigment is carbon black.

1 25. The process of claim 23 wherein the polymer forming material is a
2 mixture of pentaerythritol acrylate ester and acrylated epoxy compound.

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4 26. The process of claim 25 wherein the pentaerythritol acrylate ester
5 comprises a mixture of pentaerythritol triacrylate ester and pentaerythritol tetraacrylate
6 ester.

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8 27. The process of claim 23 wherein the composition comprised of a
9 pigment in particulate form dispersed in a nitrocellulose resin is mixed with the
10 polymer forming material in an amount of from about 35 to about 50% by weight of
11 the polymer forming material.

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13 28. The process of claim 23 wherein the composition comprised of a
14 pigment in particulate form dispersed in a nitrocellulose resin is mixed with the
15 polymer forming material in an amount of from about 35 to about 45% by weight of
16 the polymer forming material.

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18 29. The process of claim 23 wherein the carbon black dispersed in a
19 nitrocellulose resin is first mixed with a portion of materials forming an acrylic resin
20 and the resulting mixture is combined with a separate mixture containing a remaining
21 portion of materials forming the acrylic resin.